

PROCEEDINGS  
OF THE  
CALIFORNIA ACADEMY OF SCIENCES  
FOURTH SERIES

VOL. XXII, No. 7, pp. 179-185

SEPTEMBER 1, 1938

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THE TEMPLETON CROCKER EXPEDITION OF 1934-35

No. 36

ADDITIONAL NEW FISHES

BY

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The Templeton Crocker Expedition of 1934-35 secured a number of new species of fishes which are described in the following pages. Two other species from the same voyage, *Notocheirus hubbsi*, representing a new genus and species, and *Normanichthys crockeri*, representing also a new genus and species, have been previously described by the writer in Copeia, 1937 (2): 88-91. (Cf. also Norman, Copeia, 1938 (1): 29-32.)

In the descriptions the actual measurements in millimeters are given in parentheses, followed by the proportions.

## Family TRACHYPTERIDAE: The Deal Fishes

1. *Trachypterus deltoideus* Clark, new species

One specimen, 58 mm. long, Rurutu Island, Australs, Nov. 25, 1934. This species is unlike anything of which a description is available; some, but not all, the differences, may be due to stage of maturity. The silvery, finely wrinkled surface gives the general impression of a somewhat elongate triangle of tinfoil, and the body is proportionally much shorter than any species of which we can find a description. The dorsal fin is without any detached, anterior portion such as is usual in other members of the genus, and has relatively few rays or spines.

Total length 58 mm; body 45; head (11 mm.) 4.0 in body; depth (15) 3; eye (4) 2.75 in head; snout (3) 3.66; maxillary (4.5) 2.33, extending beyond middle of orbit; D. 95, beginning before middle of eye, low at its origin, but gradually rising toward its middle, from which point it remains nearly uniform in height until the end; no anal; pectoral short, of about 13 rays, apparently rising out of a pit; ventrals thoracic, exceedingly long, projecting beyond caudal, very thin and membranous, having a somewhat gauzy appearance; caudal peduncle long and slender, with a thin, rayless membrane on the ventral side, turning upward to the long, narrow, acute caudal of about 9 more or less forked rays, which point almost directly upward. Dorsal rays beset with minute tubercles which give the frail fin an appearance of roughness. Forehead markedly declivous; mouth somewhat oblique; two large nostrils in front of eye; lateral line represented by a depression along middle of side. Apparently most closely related to *T. trachypterus* Poey, of Cuba. Color uniform bright silvery.

*Holotype* and only specimen: No. 5532, Mus. Calif. Acad. Sci., Ichthyol., Rurutu Island, Australs, Nov. 25, 1934.

## Family GIRELLIDAE

2. *Girella felicianae* Clark, new species

Two specimens from tide pools, San Felix Island, off Chile, Feb. 18, 1935, Templeton Crocker Expedition of 1934-35, one 82 mm., the other 115 mm., total length.

Compared with our specimens of *Girella nigricans* the range of which is given from Monterey, Calif., to Cape San Lucas, the San Felix specimens are deeper, and markedly different in color, being almost black with 7 or 8 rather narrow light bands separating the broad interspaces. Certain specimens of *Doydixodon freminvillei*, described as "dark uniform green, or banded with darker", may resemble them in color, but the anatomical characters are those of *Girella*. The following is a description of the larger specimen, chosen as the holotype:

Total length 115 mm.; body 88 mm., head (28 mm.) 3.14 in body; depth (38) 2.319; eye (7) 4.0 in head; snout (10) 2.8; maxillary (8) 3.5; interorbital (9) 3.11; D. XIV, 13; A. III, 11; V. (19 mm.) 1.47, reaching to vent; pectoral 18 rays (20 mm.) 1.4; scales 12–82–12, finely and sharply ctenoid, faint traces of scales on fin membranes; most of the head naked, except a little roughness on cheek; traces of scales on breast, belly naked, accessory scale at axil of ventral and of pectoral very small; the rather deep preorbital nearly sheathing the small maxillary. Upper lip rather thick, premaxillary slightly protractile. Teeth a row of trifid incisors in each jaw, followed by a band of smaller teeth. Opercle and preopercle entire; a small, flat spine back from margin of opercle; gill openings free from the isthmus, forming a shallow, thin fold across it; branchiostegals about 5; pseudobranchiae well developed; gillrakers about as long as pupil, fairly numerous.

The smaller paratype, 82 mm. in total length, was partly dissected with the following results; peritoneum jet black; stomach with numerous, very small caecae; intestine elongate and capacious, much convoluted. No airbladder noted, although in the description of the genus there is said to be an airbladder with posterior horns.

*Holotype*: No. 5567, and *paratype*: No. 5568, Mus. Calif. Acad. Sci., Ichthyol. San Felix Island, off Chile, from tidepool, Feb. 18, 1935.

#### Family POMACENTRIDAE: The Demoiselles

#### 3. *Abudefduf tridentatus* Clark, new species

Among the small pomacentrids in the collection were two about 25 and 24 mm. long, which were sufficiently developed to be identifiable, but which were unlike anything of which an account could be found. The following is a description of the holotype:

Total length about 25 mm., end of caudal somewhat frayed; body 19 mm.; head (7 mm.) 2.62 in body; depth (12) 1.58; eye (2.1) 3.34; snout (1.9) 3.5; maxillary (2) 3.5, rather broad, reaching almost to a vertical of front edge of iris; interorbital (2.5) 2.8, arching high above eyes; D. XIII, 16, spines strong and heteracanth; A. II, 16; V. I, 5; the first ray attenuate, reaching almost to tip of first anal spine; P. about 17; caudal frayed, apparently somewhat emarginate; scales 4–28–12, 23 pores, the well arched lateral line ending under the soft dorsal; scales ctenoid with numerous fine, concentric growth lines, from 13 to 18 per scale; opercle covered by a few, very large scales. A low sheath consisting of a row of small scales at base of spinous dorsal, but all fin membranes naked. Opercle and preopercle entire; gill-membranes free from the isthmus; pseudobranchiae well developed; gill-rakers slender, about as long as eye. A striking character, unlike that of any pomacentrid in our collection, is shown by the teeth, which are in one row, incisor-like, unusually broad, and distinctly trifid. In the larger specimen the tips are black, contrasting with the rest of the tooth.

Color: Larger specimen (holotype) general uniform brownish, except snout, base of caudal, caudal, upper half of dorsal rays, tips of pectoral and anal rays, which are colorless; a blackish area from nape and along base of dorsal, and a spot about size of eye just behind dorsal. The smaller specimen shows 5 faint bars on sides.

*Holotype*: No. 5533, and *paratype*: No. 5534, Mus. Calif. Acad. Sci., Ichthyol., from Taiohae Bay, Nukuhiva, Marquesas, Oct. 6–15, 1934.

## Family ELEOTRIDAE

4. *Ptereleotris letholepis* Clark, new species

Three specimens, one from Hao Island, Paumotos, Oct. 31, 1931, and the others probably from the same place, the specimens having been separated during sorting. They varied little in dimensions, and the specimen intermediate in size, which had its fins expanded so that counts could be made accurately, was chosen as the holotype, and is described as follows:

Total length 98 mm.; body 83 mm.; head (16 mm.) 5.19 in body; depth (13) 6.37; eye (4) in head, snout the same; maxillary (6) 2.66; interorbital (5) 3.2, flattish; D. VII, 27; A. 25 or I, 24; spine, if present, not distinguishable from ray, and both dorsal and anal rays unbranched; V, I, 5, the fins close together, narrow, and a little shorter than head; P. 23, broad, length about 1.33 in head; caudal longer than head, somewhat forked, its end ragged, the upper lobe acute, and projecting markedly beyond the lower. Mouth oblique, the lower jaw projecting, lips rather thin, upper protractile; stout, conical canines in both jaws, behind which are about 3 rows of smaller teeth, none on vomer; branchiostegals 4. Gill membranes joined to the isthmus well under throat. Partial dissection of a paratype showed pseudo-branchiae well developed well forward; gillrakers rather long and slender, about 7+20; no airbladder, silvery peritoneum and short simple intestine.

Color: In spirits uniform light brownish-olive, the fins faintly dusky, a black line at lower half of base of pectoral.

*Holotype*: No. 5529, and *paratypes*: Nos. 5530 and 5531, Mus. Calif. Acad. Sci., Ichthyol., from **Hao Island, Paumotos**.

These elongate, moderately compressed fishes bear a considerable resemblance to *P. dispersus* Herre of the Philippine Islands, but differ in contour, the dorsal outline being gently arched from tip of snout to caudal, the ventral outline being slightly concave. The parallel, wavy wrinkles between the muscular bands are similar. The minute, circular, apparently embedded scales can be made out only under magnification after the specimen has dried well, and even then only one is seen here and there, so that anything like an accurate count is impossible. There are a few, scattered ones on the membranes of the caudal.

## Family CLINIDAE

5. *Salarias chilensis* Clark, new species

Six specimens, about 32 mm. long, from Valparaiso Harbor, Feb. 5-9, 1935, and one from Coquimbo Bay, Chile, Feb. 13, 1935.

The following is a description of the holotype, our largest specimen.

Total length 32 mm.; body 26 mm.; head (6.5 mm.) 4 in body; depth (6.0) 4.3; eye (2.5) 2.6 in head; snout (1.5) 4.3; maxillary (2) 6.5; interorbital (2) 6.5; D. XIII, 16; A. 19; V. 2; P. about 12; branchiostegals 4. Profile rounded, the jaws about

equal, gape short, not reaching to eye; body rather heavy forward, gradually tapering to tail. Teeth a palisade of narrow, compressed incisors, set rather firmly but movably in lips; no canines nor vomerine teeth; gill-membranes attached to isthmus near base of ventrals; lateral line barely perceptible, short, arched over pectoral; a short, simple filament above eye. The dorsal spines gradually shorten to the last, from which point the rays gradually lengthen, but there is hardly a distinct notch in the fin.

Color: Top of head blackish; five round blotches across dorsal line, narrowing at top of side, then widening to form a circular area at upper half of side. Narrow lines extend from middle of gape, below middle of eye, and another back and downward from eye, forming V-shaped marks with the apex posterior; lower half of pectoral black, ventrals plain; a narrow cross-line at base of caudal, which is a trifle emarginate.

On account of the small size of these fish certain details were difficult to make out satisfactorily. A dissected specimen showed the presence of small pseudo-branchiae, gillrakers rudimentary, but sharply conical, about 8 in number; the intestine short; no air bladder observed, peritoneum silvery, coarsely black-punctate; the vertebrae about  $16 + 22 = 38$ .

These fishes agreed with no available description, and differ clearly from *Salarias rubropunctatus*, the only known species of the genus from this region.

*Holotype*: No. 5535, Mus. Calif. Acad. Sci., Ichthyol., from **Valparaiso Harbor, Chile**, Feb. 5-9, 1935. *Paratypes*: six, Nos. 5536 to 5541 inclusive, from same place, and one, No. 5542, from Coquimbo Bay, Chile, Feb. 13, 1935.

## 6. *Ophioblennius xiphiodon* Clark, new species

### Saber-tooth Snake Blenny

The collections contained a number of little blennies representing the genus *Ophioblennius*, of which few species have been described; one, *webbii*, from the Canary Islands, one, *steindachneri*, from the Tres Marias Islands and a third, *pinchoti*, from Black Beach Anchorage, Charles Island, Galapagos, in 1932. In the Templeton Crocker Expedition to the Galapagos of 1932 we obtained a considerable number of the last named species about the various islands.

The present species is strikingly different from *pinchoti* in both form and coloration, being much shorter and strikingly marked, instead of relatively plain. It differs also in details from the other species.

The following is a description of an average specimen, chosen as holotype:

Total length 44mm.; body 36 mm., head (10mm.) 3.6 in body; depth (8) 4.5; eye (3) 3.3 in head; snout (2.5) 4; maxillary (3) 3.3; interorbital width (2) 5 in head; D. XI, i, 16; A. 17; V. 2, no scales. Branchiostegals 6; upper lip finely crenate; a row of minute teeth attached loosely in bunches back of the lips and freely movable; four strong, curved canines near symphysis of lower jaw, and four smaller ones in upper jaw. A pinnately branched cirrus above eye, a short, palmately branched one at anterior nostril, and a pair of filaments each side of the nape.

A paratype was dissected with the following results. Pseudobranchiae small, well forward, the lining of the gill cavity silvery, coarsely punctate with black, as was the outside of the gill cover; gillrakers about 2+11, minute, acute at tip; intestine short; vertebrae about 10+20=30; no air bladder.

Color markings: Top of head dusky, spinous dorsal punctulate, a series of square, minutely punctate blotches, about ten in number and somewhat wider than the interspaces, each side of mid-dorsal line; a very narrow bar of minute dots across base of caudal; anal, soft part of dorsal and ventral, plain; pectorals black, tipped with coarse punctulations. All the specimens have the same general color pattern, but some are paler, some darker, and some have additional small, dusky blotches along the middle of the side.

*Holotype*: No. 5543, Mus. Calif. Acad. Sci., Ichthyol., Callao, Peru, Feb., 1935. *Paratypes*: seven, Nos. 5544 to 5550, from Callao; two, Nos. 5551 and 5552, from Valparaiso, Chile; and four, Nos. 5553 to 5556, from Chinchas, Peru, all taken during Feb., 1935.

#### 7. *Ophioblennius fernandezensis* Clark, new species

Eight specimens, taken at San Juan Bautista (Cumberland) Bay, Juan Fernandez Islands, Jan. 31, 1935, were at first included with *O. xiphiodon*, of which they were regarded as simply pallid examples. In general shape, dentition, and other respects they are very similar to that species.

They differ in all having a comb of filaments on each side of the nape, and in their pallid coloration, there being a row of small, black blotches, about 10 in number, along the dorsal line, and a narrow, black bar at the base of the caudal, the rest of the body and all fins being plain. The differences between the species, though slight, are markedly constant.

*Holotype*: No. 5557; *paratypes*: seven, Nos. 5558 to 5564, Mus. Calif. Acad. Sci., Ichthyol., from San Juan Bautista (Cumberland) Bay, Juan Fernandez Islands, Jan. 31, 1935.

#### 8. *Ophioblennius phalacrus* Clark, new species

One specimen, 32 mm. long, from Taiohae Bay, Nukuhiva, Oct. 2-15, 1934, is markedly different from the other species in our collection in several respects, being unusually short and deep, and of peculiar coloration. It fits the generic diagnosis given in Günther's Catalogue, but differs from all species of which we can find descriptions by lacking cirri at nostrils, above the eye, etc. The following is a short description of our specimen, only such features as could be observed without mutilation being noted.

Total length 32 mm.; body 26 mm.; head (9 mm.) 2.88 in body; depth the same; eye (3) 3 in head; snout (2) 4.5; maxillary (2.5) 3.6; gape hardly reaching to eye; interorbital (2) 4.5; D. X. 13; A. 14; V. 2; P. 19; no scales, but lateral line short, arched over pectoral, the pectoral rather short, but broad. Branchiostegals 5, gill-

membranes forming a shallow fold across the isthmus; caudal truncate or slightly emarginate. Teeth as usual in the genus, four stout, curved fangs about symphysis of upper and lower jaws, a palisade of small incisors in sides of jaws.

Color: Posterior part of body cream color; head coarsely punctate with black spots, the largest of which are larger than pupil, the spots extending backward along base of dorsal.

*Holotype* and only specimen: No. 5566, Mus. Calif. Acad. Sci., Ichthyol., Taiohae Bay, Nukuhiva I., Marquesas, Oct. 2-15, 1934.

Name from Greek *φάλακρος*, bald, from the absence of cirri on the positions where usually found in members of the genus, and included in some generic descriptions.

#### 9. *Ophioblennius* sp. indet.

An additional specimen of *Ophioblennius*, sufficiently developed to reveal generic characters but too immature to justify its description as a definite species, was taken at Taiohae Bay, Nukuhiva Island, Marquesas, Oct. 6-15, 1934, and with it are a number of young fishes, similar in general appearance, but too young to even assign to any genus. In order that future investigators of that area may be on the lookout for more mature specimens, the following description is given:

Total length 32 mm.; body 26 mm.; head (9 mm.) 2.88 in head; depth (8) 3.25; eye (3) in head; snout (2) 4.5; maxillary (2.5) 3.6; interorbital (2) 4.5; D. XI-13, the spines long and slender, a short space between spinous and soft dorsal; A. I, 15; V. 2, the rays long and slender; P. 16, base broad; C. truncate; branchiostegals about 4, gill membranes forming a fold across the isthmus a little anterior to base of ventrals; jaws about even. Two strong and markedly curved canines at symphysis of upper jaw, followed by two smaller ones; a pair of similar, strongly curved canines at symphysis of lower jaw; no secondary canine immediately behind it, but there appears to be a small one back at the posterior part of the jaw. About 27 muscular bands; no scales, but an arched lateral line of about 27 pores over the pectoral and backward. No color except the usual black area over the occiput; a small silvery patch on belly. A branched cirrus at nostril, a slender single one above eye, and comb of filaments at nape.

